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Test record

ASCLD/LAB–*International* Testing Accreditation Certificate ALI-217-T

Test Description	Media Burn (flash cell)		
Scenario	Flashover cell (LBR)		
Test Type	Custom	Lab Number	ATFFRL040003
Test Number	1		
Test Date	Oct 27, 2004	Test Duration	240

Thermocouples

Thermocouples are temperature measurement sensors that consist of two dissimilar metals joined at one end (a junction) that produces a small thermo-electrical voltage when the wire is heated. The change in voltage is interpreted as a change in temperature [1]. There are many configurations of thermocouples which affect the temperature range, ruggedness, and response time. The information required to identify these factors for the thermocouples that were used during the experiment(s) conducted for this test series is provided in the "Thermocouple Measurement Description" table. Thermocouples used during this test series were used in accordance with the method defined in FRL laboratory instruction "LI001 Thermocouple" [2].

The following table provides a description of the instrumentation used to collect the temperature measurements during the experiments. The "Description" column describes the location of the temperature measurement. The "Z" location is the height of the thermocouple above the floor. The "Thermocouple Type" describes the characteristics of the thermocouple used.

Table 1. Thermocouple Measurement Description

Description	Z (m)	Thermocouple type
0 feet	0	Type K, Bead, 20 ga wire
1 foot	0.3	Type K, Bead, 20 ga wire
2 feet	0.61	Type K, Bead, 20 ga wire
3 feet	0.91	Type K, Bead, 20 ga wire
4 feet	1.22	Type K, Bead, 20 ga wire
5 feet	1.52	Type K, Bead, 20 ga wire
6 feet	1.83	Type K, Bead, 20 ga wire
7 feet	2.13	Type K, Bead, 20 ga wire
8 feet	2.44	Type K, Bead, 20 ga wire

The following table provides a summary of the temperature results. The "Initial" column provides the measured temperature at the beginning of the test. The maximum temperature recorded during the test is provided in the "Max" column. The remaining columns provide the calculated maximum average temperatures.

Table 2. Temperature Value Result Summary

Description	Initial (C)	Max (C)	30 second maximum average (C)	60 second maximum average (C)	300 second maximum average (C)	600 second maximum average (C)
0 feet	0	0	0	0	0	0
1 foot	0	0	0	0	0	0
2 feet	0	0	0	0	0	0
3 feet	0	0	0	0	0	0
4 feet	0	0	0	0	0	0
5 feet	0	0	0	0	0	0
6 feet	0	0	0	0	0	0
7 feet	0	0	0	0	0	0
8 feet	0	0	0	0	0	0

The following chart(s) present a time-dependent representation of the instantaneous temperatures measured during the experiment.

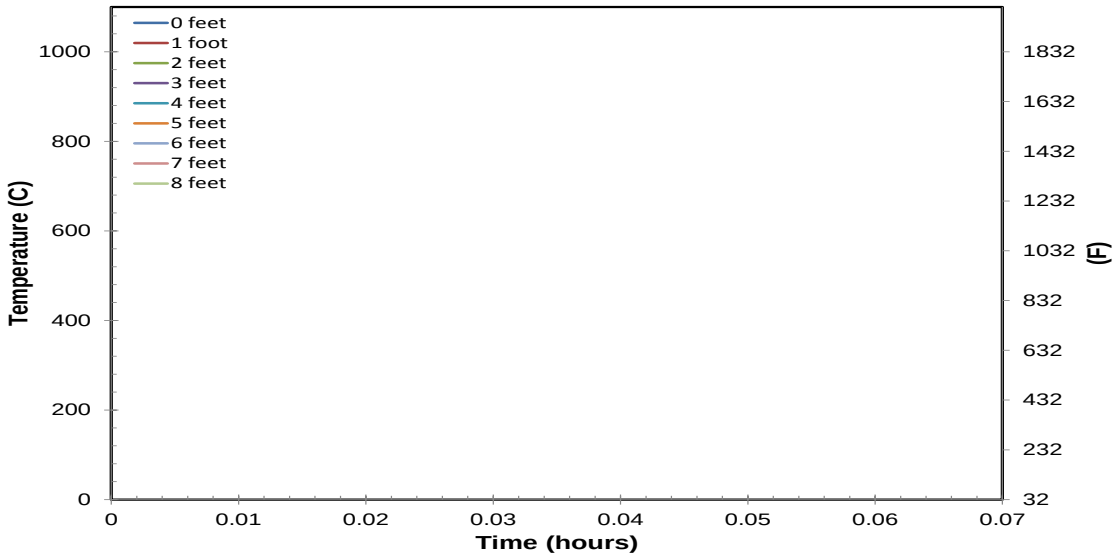

Figure 1. Temperature

Experiment Photographs

Digital Cameras are used within the FRL to record digital still photographs during experiments. Digital Cameras used during this test series were used in accordance with the method defined in FRL Laboratory Instruction "LI003 Digital Cameras" [3].

The following figures show all of the still photographs uploaded into the FireTOSS system. The caption below each figure provides the picture's filename as well as any description and elapsed test time associated with the picture.

Figure 2. 84, 200410271013512

Figure 3. 110, 200410271013333

Figure 4. 160, 200410271013175

Figure 5. 37, 200410271014115

Figure 6. PRE, 200410271017360

Figure 7. PRE, 200410271021160

Figure 8. 99 seconds, 200410271013923

Figure 9. 137 seconds, 200410271013764

Figure 10. 175 seconds, 200410271013595

References

1. The Temperature Handbook, 2nd edition, Omega Engineering, Stamford, CT, 2000.
2. Laboratory Instruction LI001 - Thermocouple, Bureau of Alcohol, Tobacco, Firearms and Explosives – Fire Research Laboratory, Beltsville, MD.
3. Laboratory Instruction LI003 - Digital Cameras, Bureau of Alcohol, Tobacco, Firearms and Explosives - Fire Research Laboratory, Beltsville, MD